

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 10

**CLEAN WATER ACT - SECTION 404 ENFORCEMENT:
GENERAL GUIDELINES FOR PREPARATION
OF REMOVAL AND/OR RESTORATION PLANS**

The following guidelines serve as general specifications for preparing removal and/or restoration plans to remediate the unauthorized filling of waters of the United States, including wetlands. As environmental conditions vary at every site, precise specifications will depend upon conditions pertaining to the site in question. The size of the area to be restored, its biological and physical characteristics, and the level of disturbance the site has experienced will further define the scope and complexity of the restoration plan. In most cases, the types of information listed below represent the minimum required to formulate an acceptable removal and/or restoration plan.

I. Existing Physical/Biological Conditions:

- A. A surveyed site plan depicting property boundaries, streets (roads), structures, water bodies (with mean high water level indicated), wetlands, FEMA 100-year floodplain (if applicable), areas of unauthorized fill, elevation contours, and other ground surface features at a scale no greater than 1 inch = 40 feet. This plan shall include a cross-section view of the site which shows soil depths, fill depths, and average depth to groundwater levels across the site as conditions on the site now exist.
- B. A narrative description of existing physical conditions, including the area of the site; area of unauthorized fill; existing aquatic resources (streams, creeks, wetlands - including the types of vegetation); the soil types present (including the types of unauthorized fill present); the hydrologic regime of the site; and other relevant information such as presence of threatened and endangered species (and their designated critical habitat), surrounding land use (agricultural activities, etc.) as well as any proposed alterations to aquatic resource to accommodate for these ongoing activities (irrigation practices, ditching, maintenance of drainageways, etc.) within or near the restoration site.

II. Proposed Physical/Biological Conditions:

- A. Using the site plan described in I.A. above as a base, show the exact areas where remedial activities will occur (e.g., removal of fill material, replacing dredged material into ditches, etc.). Indicate proposed finished grades, expected mean high water elevations, the location of proposed plantings/seedings, and the location of all sediment and erosion control structures (e.g., hay bales, silt screens, etc.). This plan shall include a cross-section view of the site which shows proposed soil depths and average depth to groundwater across the site.

- B. Provide a narrative description of the remedial work to occur, including the methods and type of equipment to be employed; how the equipment will gain access to the site to perform the work; the location of the ultimate disposal site of any removed materials; how the work will progress across the site; a listing of the native plant materials to be seeded/planted at the site; the sources of the plant material (note: as a rule, transplanting of plant stock from the site will not be permitted); the planting method(s) and scheme (i.e., physical layout of how plant material will be installed and at what densities); any methods to be used to minimize adverse impacts while remedial work is underway; the expected hydrologic regime of the site in its restored condition; and other relevant information such as wildlife or fisheries habitat enhancement features proposed.
- C. Delineate the area(s) on the site to be restored by installation of flagging, sedimentation and erosion control structures, or other appropriate methods; this delineation shall represent the limit of construction activities such that no work shall occur beyond these boundaries unless authorized by EPA.

III. Actual Restored Physical Conditions:

- A. Using the site plan described in I.A. as a base, show the actual physical conditions at the site upon the completion of grading activities (i.e., an “as-built” plan), including actual finished grades and all pertinent ground surface features (ditches, creeks, etc). This plan shall include a cross-section view of the site which shows actual soil depths and average depth to groundwater across the site. This as-built plan shall be prepared and submitted to EPA prior to planting and reseeding activities.

IV. Monitoring/Measures of Success:

- A. Normally, monitoring shall be performed midway through and near the end of the first and second growing seasons, then annually near the end of each successive growing season for the duration of the required monitoring period. Monitoring shall be performed for a period of three to five years, depending upon the scope and complexity of the remedial efforts required for the site.
- B. A monitoring plan shall incorporate a simple statistical approach to assessing relative success or failure of restoration efforts (e.g., transects with sampling stations for measuring parameters such as percent areal cover in each vegetative stratum - trees, shrubs, ground cover). A permanent photographic record shall be included as part of the monitoring plan.
- C. Depending upon the scope and complexity of the remedial efforts, general criteria to measure success shall be determined by EPA. These criteria shall be determined by EPA. These criteria shall be directly related to reestablishing the structural and biological components of the aquatic ecosystem being restored. A

general provision shall be included to allow for corrective actions to be taken, at the direction of EPA, should monitoring show that one or more of the criteria for success are not being met.

- D. A report shall be prepared and submitted after each prescribed monitoring event which describes the environmental conditions at the site and assesses relative success or failure of restoration efforts. This report shall include photographic evidence as well. This report shall identify any problems discovered and recommend appropriate corrective action(s) to ensure the success of restoration.

V. Inspections:

- A. The plan shall provide for inspections by EPA personnel or their designated agent after installation of all sedimentation and erosion control structures, after completion of grading activities, after completion of initial planting/seeding activities, and after monitoring indicates that the criteria for success have been attained.

VI. Scheduling:

- A. A comprehensive schedule integrating all removal, restoration, inspection, and monitoring activities as well as report/product submissions shall be included. This schedule will account for any restrictions imposed by either Federal, State or local jurisdictions on seasonal activities to protect natural resources (i.e., fish spawning areas and seasons, breeding birds, etc.)